

## **Cave-dwelling oribatid mites from Greece (Acari: Oribatida)<sup>1</sup>. (Neue und interessante Milben aus dem Genfer Museum XLIX)**

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**Cave-dwelling oribatid mites from Greece (Acari: Oribatida). (Neue und interessante Milben aus dem Genfer Museum XLIX).** – A list of 15 Oribatida species from natural caves and artificial galleries of Samos, Nikaria and Corinth in Greece is given. Among them 3 species and 1 subspecies are described as new to science: *Phthiracarus* (A.) *eupalineus* sp. n. (Phthiracaridae), *Issaniella mograbin hauseri* ssp. n. (Hermannellidae), *Lasiobelba icaria* sp. n. and *Medioppia samaina* sp. n. (Oppiidae). *Lasiobelba quadriseta* Subias, 1989 is noted as an unavailable name.

**Key-words:** Acari - Oribatida - taxonomy - new species, new subspecies - caves - Greece.

### INTRODUCTION

Dr. B. Hauser has continuously investigated the soil and cave fauna of Greece over years and has collected a great number of samples for extraction by the Berlese apparatus and some for extraction by the Moczarski-Winkler apparatus. The mite material has been entrusted to me. As well as 5 publications on Acarida, Anoetida and Tarsonemina, I have published 5 papers on Oribatids (Mahunka, 1974, 1977a, 1977b, 1979 and 1982). In 1981 a paper was prepared with Dr. B. Hauser as senior author which, however, has never been published. This has raised some nomenclatorial problems, but the other data are worth publishing. To this end I have again studied the material and have prepared this new manuscript.

The paper discusses 15 species. Besides describing three new species and one new subspecies I give the history of origin of the name *Daedaloppia* sp. which has, unfortunately, been erroneously introduced into literature.

The Oribatid Fauna of Greece still remains almost unknown: the checklist of Flogaitis (1992) contains only 220 species.

From a zoogeographical point of view the new subspecies of *Issaniella mograbin* Grandjean, 1962 is of great interest. Standing quite close to the nominate form from Morocco, it makes a bridge between the soil fauna of North Africa and Southern Europe.

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<sup>1</sup> Sixth Contribution to the Oribatid Fauna of Greece (Acari: Oribatida).

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When describing species I have used terminology already applied in some of my earlier papers (e.g. Mahunka, 1996).

## LIST OF LOCALITIES<sup>2</sup>

- Sam-80/4: GRÈCE: **Icarie**: Aghios Kirikos: ancienne mine au lieu-dit Metallion, 30m; 24.IV.1980; leg. B. Hauser.
- Sam-80/9: GRÈCE: **Samos**: environs de Kosmathei: grotte "Kako Perato", près du monastère Kimisos Theotoki, 580m; 25.IV.1980; leg. B. Hauser.
- Sam-80/10: GRÈCE: **Samos**: environs de Kosmathei: grotte "Tsitse Tripa", 510m; 25.IV.1980; leg. B. Hauser.
- Sam-80/11: GRÈCE: **Samos**: environs de Kosmathei: prélèvement de vieilles souches de Pins près de l'entrée de la grotte "Tsitse Tripa", 510m; 25.IV.1980; leg. B. Hauser – (extraction par appareil Berlese).
- Sam-80/12: GRÈCE: **Samos**: environs de Pythagorion: grotte "Panaghia Spiliani", 110m; 26.IV.1980; leg. B. Hauser.
- Sam-80/13: GRÈCE: **Samos**: environs de Drakei: grotte "Spilia tis Aghias Triadas", Monts Kerkis, 840m; 27.IV.1980; leg. B. Hauser.
- Sam-80/16: GRÈCE: **Samos**: environs de Karlovasi: galerie artificielle inachevée pour une source thermale radioactive, au bord de la mer dans la région de "Potamos", 5m; 28.IV.1980; leg. B. Hauser.
- Sam-80/17: GRÈCE: **Samos**: environs de Karlovasi: grotte, région de "Potamos", 5m; 28.IV.1980; leg. B. Hauser.
- Sam-80/20: GRÈCE: **Corinthe**: grotte „Tripa tou Kalivaki” près de la route Klenia - Aghionorion, 640m; 2.V.1980; leg. B. Hauser.

## LIST OF IDENTIFIED SPECIES

### Aphelacaridae Grandjean, 1954

*Aphelacarus acarinus* (Berlese, 1910)

Locality: Sam-80/11: 9 specimens.

Distribution: Palearctic region.

### Brachychthoniidae Thor, 1934

*Sellnickochthonius hungaricus* (Balogh, 1943)

Locality: Sam-80/11: 5 specimens.

Distribution: Southern part of the Palearctic region.

### Phthiracaridae Perty, 1841

*Calyptophthiracarus vicinus* (Niedbala, 1984)

Locality: Sam-80/11: 26 specimens.

Distribution: Caucasus (hitherto known from the type locality only),  
Greece: first record.

*Phthiracarus (Archiphthiracarus) eupalineus* sp. n.

Localities: Sam-80/4, Sam-80/9, Sam-80/10.

### Oribotritiidae

*Indotritia consimilis* Märkel, 1964

Locality: Sam-80/12: 72 specimens.

Distribution: Central and Southern Europe.

<sup>2</sup> Original indications given by the collector.

**Hermanniellidae** Grandjean, 1934

*Hermanniella dolosa* Grandjean, 1931

Locality: Sam-80/11: 3 specimens.

Distribution: Southern part of the Palearctic region.

*Issaniella mograbin hauseri* ssp. n.

Locality: Sam-80/16.

**Liodidae** Grandjean, 1936

*Platyliodes doderleini* (Berlese, 1883)

Locality: Sam-80/11: 5 specimens.

Distribution: Southern Europe.

**Licnobelbidae** Grandjean, 1965

*Licnobelba caesarea* (Berlese, 1910)

Locality: Sam-80/11: 6 specimens.

Distribution: Southern Europe.

**Amerobelbidae** Grandjean, 1954

*Berndamerus eremuloides* (Berlese, 1910)

Locality: Sam-80/11: 9 specimens.

Distribution: Italy.

**Xenillidae** Woolley et Higgins, 1966

*Dorycranosus splendens* (Coggi, 1898)

Localities: Sam-80/4: 1 specimen; Sam-80/17: 24 specimen.

Distribution: Central and Southern Europe, Caucasus.

**Oppiidae** Grandjean, 1951

*Lasiobelba icaria* sp. n.

Locality: Sam-80/4.

*Medioppia samaina* sp. n.

Locality: Sam-80/11.

**Haplozetidae** Grandjean, 1936

*Haplozetes vindobonensis* Willmann, 1935

Locality: Sam-80/20: 1 specimen.

Distribution: Palearctic region.

**Ceratozetidae** Jacot, 1925

*Ceratozetes peritus* Grandjean, 1951

Localities: Sam-80/9: 3 specimens; Sam-80/13: 2 specimens; Sam-80/20:  
4 specimens.

Distribution: Europe.

## DESCRIPTIONS AND TAXONOMICAL NOTES

***Phthiracarus (Archiphthiracarus) eupalineus* sp. n.**

Figs 7-10

*Material examined:* Greece: Nikaria: Holotype: Sam-80/4; Samos: 11 paratypes: Sam-80/9; 4 paratypes: Sam-80/10. Holotype and 10 paratypes: MHNG<sup>3</sup>; 5 paratypes (1592-PO-97): HNHM<sup>4</sup>.

*Measurements:* Length of aspis: 407-485  $\mu\text{m}$ ; length of notogaster: 849-1045  $\mu\text{m}$ ; height of notogaster: 620-708  $\mu\text{m}$ .

*Aspis:* Lateral carina distinct. Sinus line not observable. Sensillus (Figs 8, 9) slightly dilated basally, setiform distally, blunt at tip. All prodorsal setae very fine, simple, exobothridial one conspicuously long (Fig. 8).

*Notogaster:* All fifteen pairs of notogastral setae very fine, simple, mostly with flagelliform distal ends (Fig. 7). Setae  $c_1$  originating far from the collar line, setae  $c_3$  near to it. Vestigial setae  $f_1$  located above setae  $h_1$ . Only two pairs of lyrifissures (*ia*, *im*) present.

*Anogenital region* (Fig. 10): Typical for the genus. Five pairs of ano-adanal setae present, the two pairs of anal setae conspicuously longer than the adanal ones. Setae  $ad_3$  longer than  $ad_1$  and  $ad_2$ .

*Legs:* All claws with ventral teeth. The legs chaetotaxy is of the "complete type" with the setal formula:

$$\begin{array}{l} \text{I: } 1 - 4 - 2+1 - 5+1 - 16+3 - 1 \\ \text{IV: } 2 - 1 - 1 - 2+1 - 10 - 1 \end{array}$$

*Remarks:* On the basis of the form of the sensillus the new species stands nearest to *Phthiracarus (P.) ferrugineus* (C. L. Koch, 1841). However, setae  $c_1$  of the latter species arises very near to the collar line, the notogastral setae are directed mostly backwards, the vestigial setae  $f_1$  are located behind setae  $h_1$  (above in the new species). Furthermore, the new species belongs to the subgenus *Archiphthiracarus*, while *ferrugineus* belongs to the nominate subgenus.

*Derivatio nominis:* Named after Eupalinos of Mégara, engineer in Samos, who constructed a famous gallery for the water-supply of the capital in about 530 BC. This tunnel of 1km in length, called Eupalineion, is still intact.

***Calyptophthiracarus vicinus* (Niedbafa, 1984)**

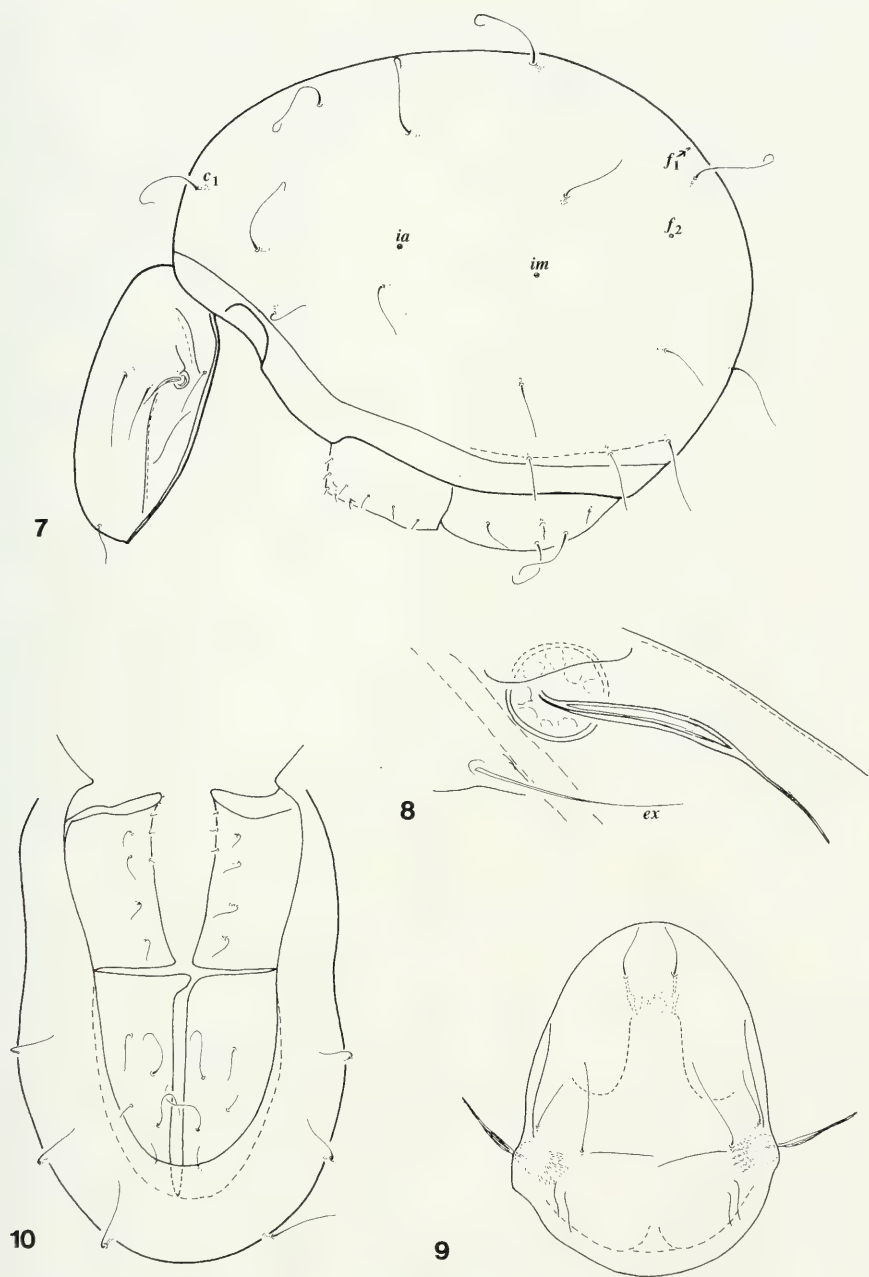
Figs 1-6

The species was described from Caucasus. The specimens from Greece are readily identified with the figures given by Niedbafa (1984) and his description. Minor differences occur in the shape of the sensillus. The sensillus in Niedbafa's paper is somewhat more elongated and bears shorter spines.

<sup>3</sup> MHNG: deposited in the Muséum d'histoire naturelle, Geneva.

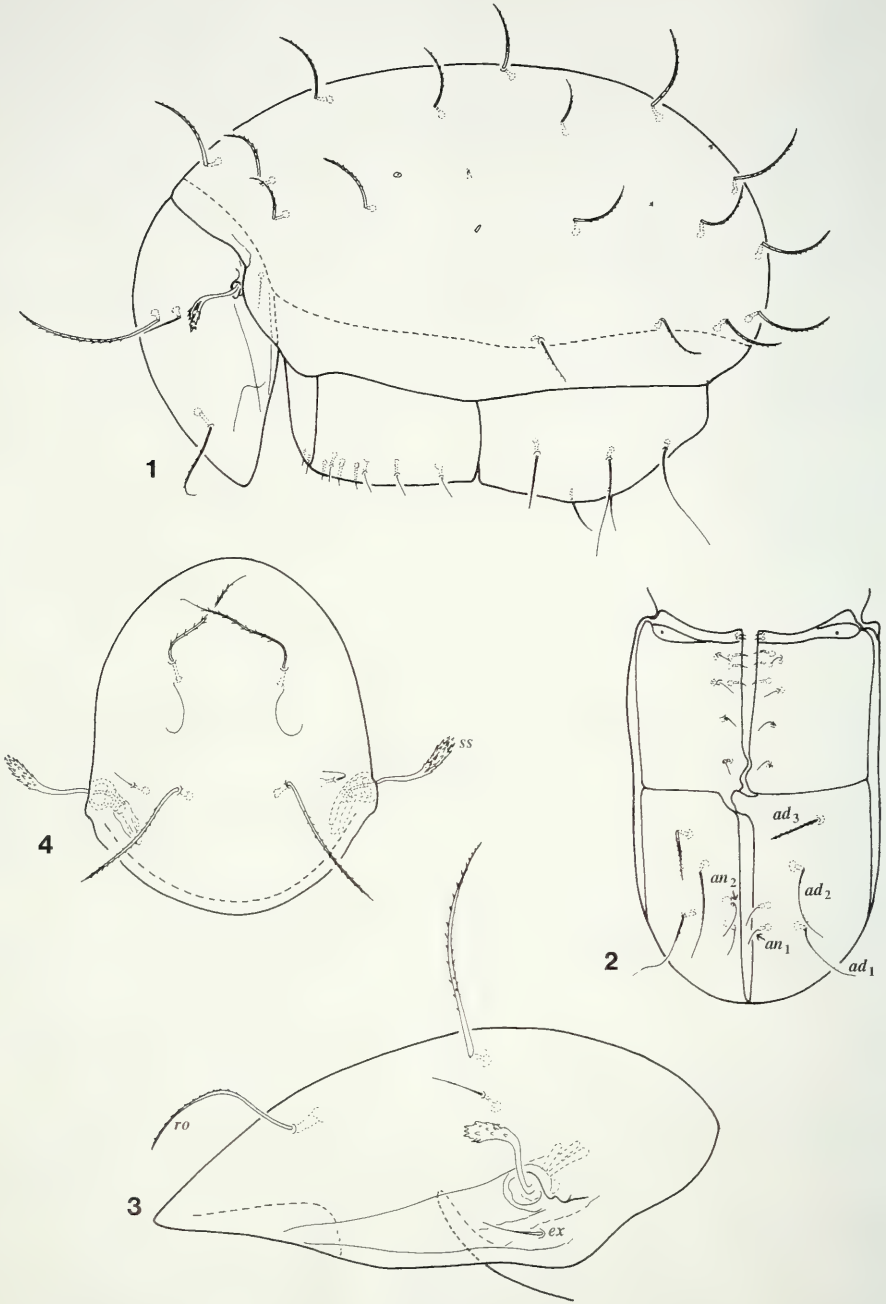
<sup>4</sup> HNHM: deposited in the Hungarian Natural History Museum, Budapest, with identification number of the specimens in the Collection of Arachnida.





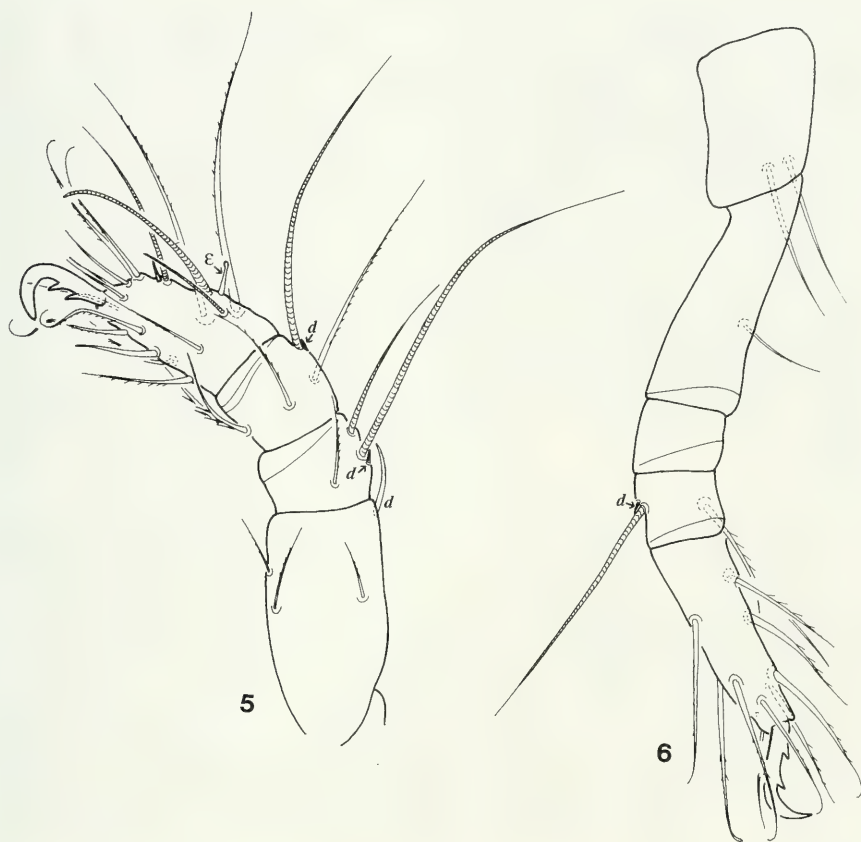
FIGS 7-10

*Phthiracarus (Archiphthiracarus) eupalineus* sp. n. - 7: body in lateral view, 8: bothridial region, 9: aspis in dorsal view, 10: anogenital region.



FIGS 1-4

*Calyptophthiracarus vicinus* (Niedbala, 1984) - 1: body in lateral view, 2: anogenital region, 3: aspis in lateral view, 4. aspis in dorsal view.



FIGS 5-6

*Calyptophthiracarus vicinus* (Niedbala, 1984) - 5: leg I, 6: leg IV.

***Issaniella mograbin* Grandjean, 1962**

The nominate form was described by Grandjean (1962) from Morocco. The species has not been collected elsewhere. The Greek specimens are highly similar to the nominate form. However, basic differences exist in the length of setae and in the sculpture. These are so significant that I feel justified to introduce for the Greek specimens a new subspecies.

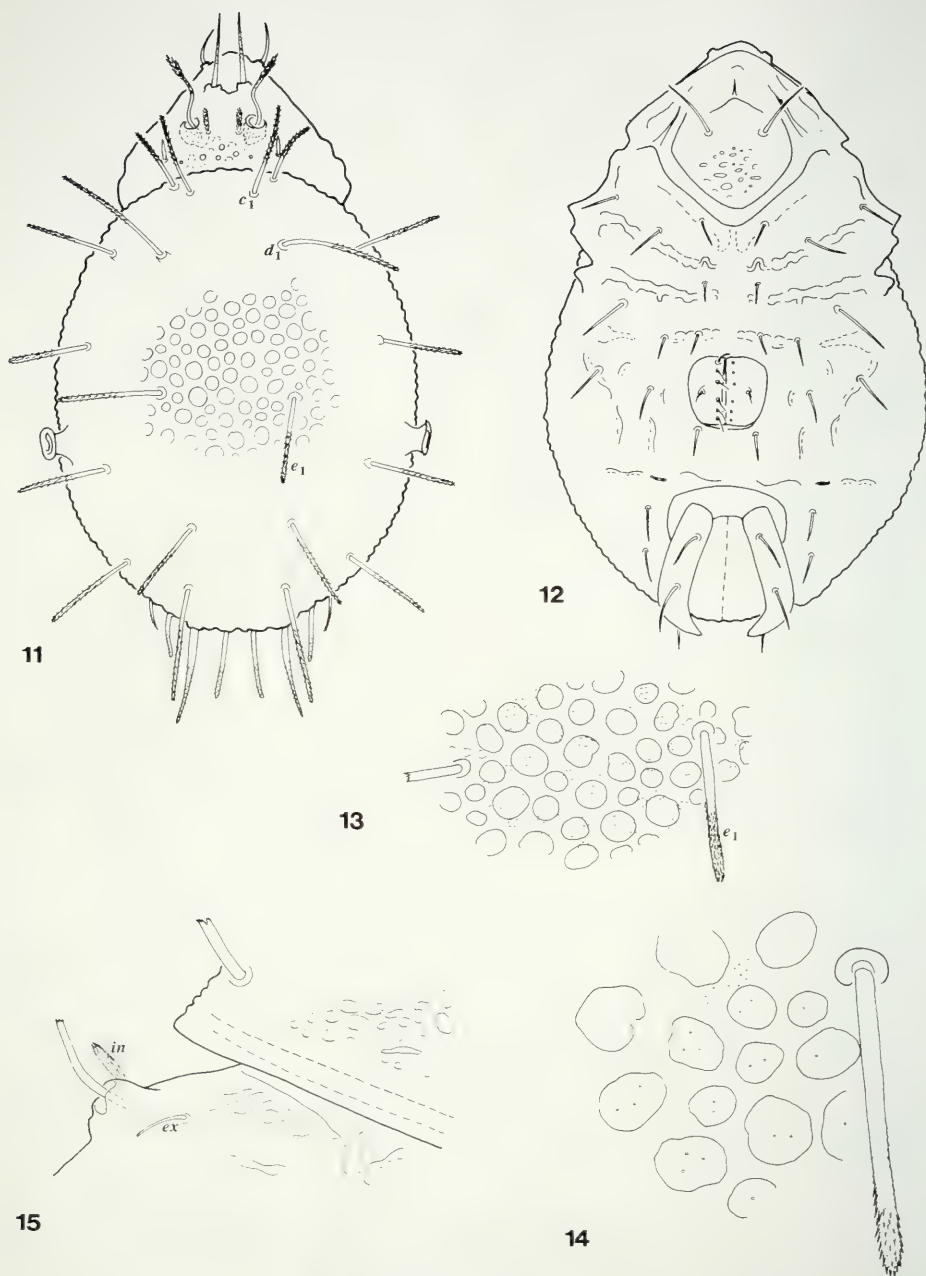
***Issaniella mograbin hauseri* ssp. n.**

Figs 11-15, Pl. a-b

*Material examined:* Greece: Samos: Holotype: Sam-80/16; 61 paratypes from the same sample. Holotype and 36 paratypes: MHNG and 24 paratypes (1585-PO-96): HNHM.

*Measurements:* Length: 713-752  $\mu\text{m}$ ; width: 388-461  $\mu\text{m}$ .

*Diagnosis:* Setae  $c_1$  and  $d_1$  are very long (136  $\mu\text{m}$ ), longer than the distance between their alveoli. Foveolae comprising the sculpture of notogaster are large, only 5-6 foveolae occur between setae  $e_1$  (Fig. 13).



FIGS 11-15

*Issaniella mograbin hauseri* ssp. n. - 11: body in dorsal view, 12: body in ventral view, 13: sculpture of notogaster between setae  $e_1$ , 14: sculpture of notogaster, 15: bothridial region in lateral view.

*Derivatio nominis:* I dedicate the new subspecies to my friend Dr. B. Hauser, collector of this interesting material.

*Remarks:* This is a second case of a very close relation between oribatids from Morocco and Greece. The first time we made this observation was with the two cave oribatids *Brachychochthonius maroccanus* Mahunka, 1980 and *Brachychochthonius guanophilus* Mahunka, 1979 (Mahunka, 1980). Perhaps this phenomenon can be ascribed to the fact that the Meditereranean Sea dried out some 6 million years ago (Hsü, 1972) and the Black Sea also less than 6 million years ago (Hsü, 1978).

***Issaniella mograbin mograbin* Grandjean, 1962**

*Diagnosis:* Setae  $1c$  and  $d_1$  are half as long as the distance between them (see Grandjean, 1962: fig. 5A). Foveolae comprising the sculpture of notogaster are small, 9-10 foveolae may find space between setae  $e_1$  (see Grandjean, 1962: fig. 6A)

***Berndamerus eremuloides* (Berlese, 1910)**

Figs 16-22

A series of figures, based on the specimens from Greece, are given because only few illustrations exist of this species and none of its legs. It is here recorded for the first time from Greece.

This species was earlier misidentified under the name *Rastellobata rastelligera* (Berlese, 1908) and reported from Greece (Mahunka, 1974).

After the revision of the oribatid types of Berlese (see Mahunka & Mahunka-Papp, 1995) we must correct these data. At present we have convincing data on the distribution of *Rastellobata rastelligera* only for Italy. Therefore this species is to omit from the list of oribatids from Greece (Flogaitis, 1992), at least for the moment. The other data published on *Rastellobata rastelligera* should be handled with utmost care, as, e.g., the Hungarian reference (Balogh, 1943) is certainly erroneous.

***Dorycranosus splendens* (Coggi, 1898)**

Figs 23-31

This is the first record for Greece of this rare Mediterranean species and for this reason a series of figures of Greek specimens is given.

***Lasiobelba icaria* sp. n.**

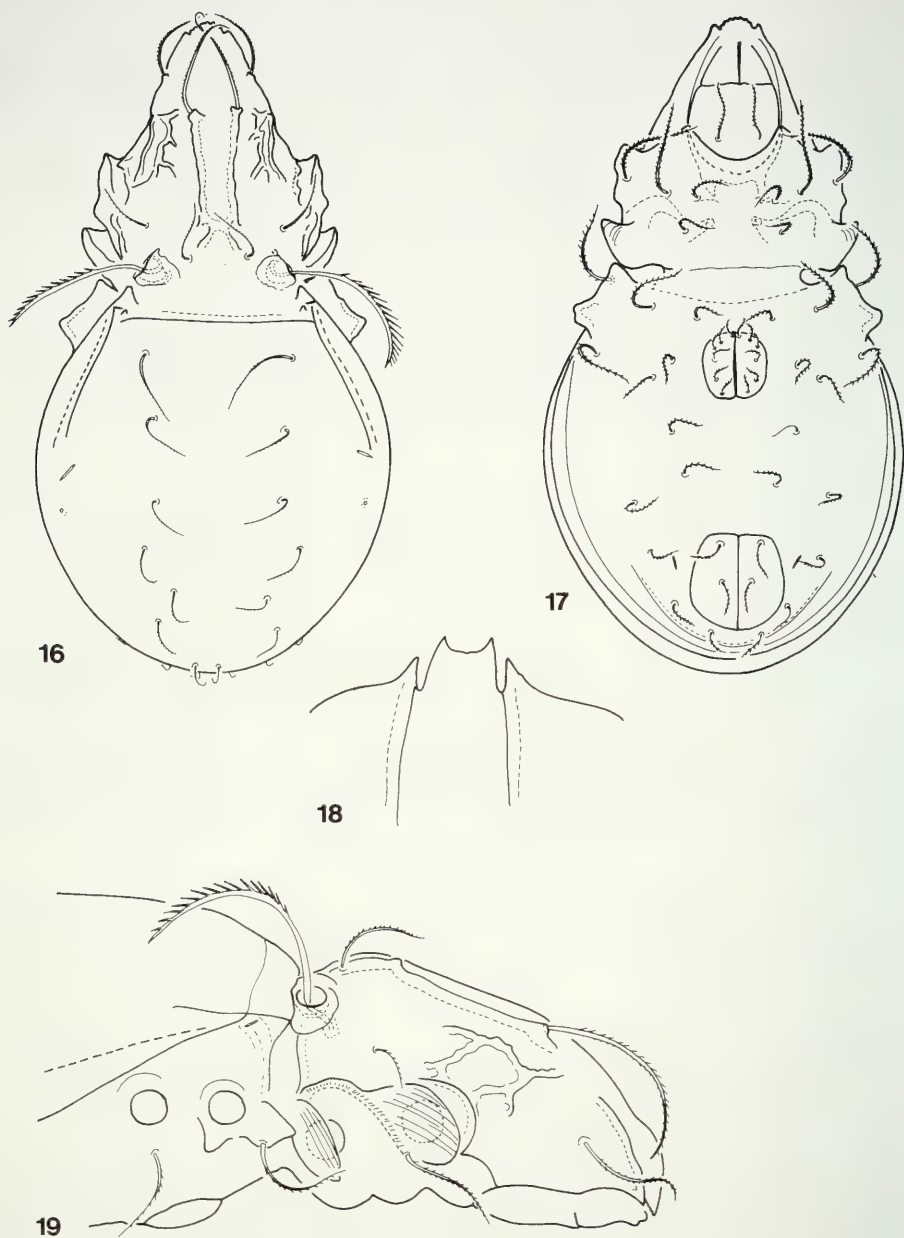
Figs 32-41

= *Daedaloppia* sp. Hauser et Mahunka in Balogh, 1983 – unavailable name

= *Lasiobelba quadriseta* Subias nom. n., 1989, in Subias & Balogh, 1989 – syn. nov.

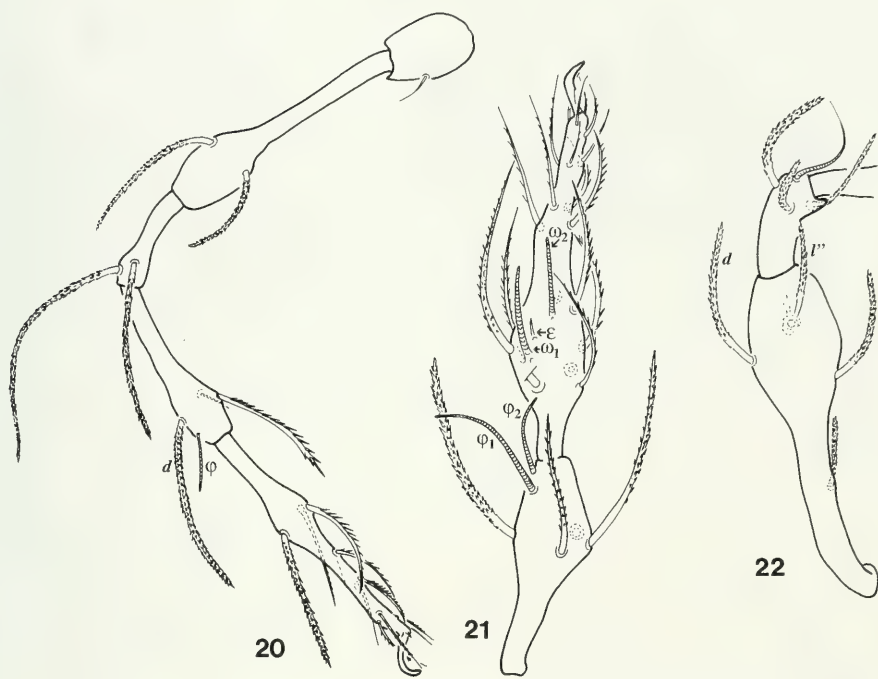
A description of this species should have been published, together with the other novelties, in a paper with B. Hauser as senior author, under the name *Daedaloppia icaria* gen. n., sp. n. This publication, however, has not appeared. Balogh asked us to include the name of the genus in his paper (1983) in order to make the Oppiidae genus key as complete as possible. In this way the name *Daedaloppia* sp. Hauser et Mahunka, 1983 was unfortunately introduced into the literature with all the nomenclatural consequences. Indeed "no generic name was made available in Balogh (1983),





FIGS 16-19

*Berndamerus eremuloides* (Berlese, 1910) - 16: body in dorsal view, 17: body in ventral view, 18: rostral apex, 19: podosoma in lateral view.



FIGS 20-22

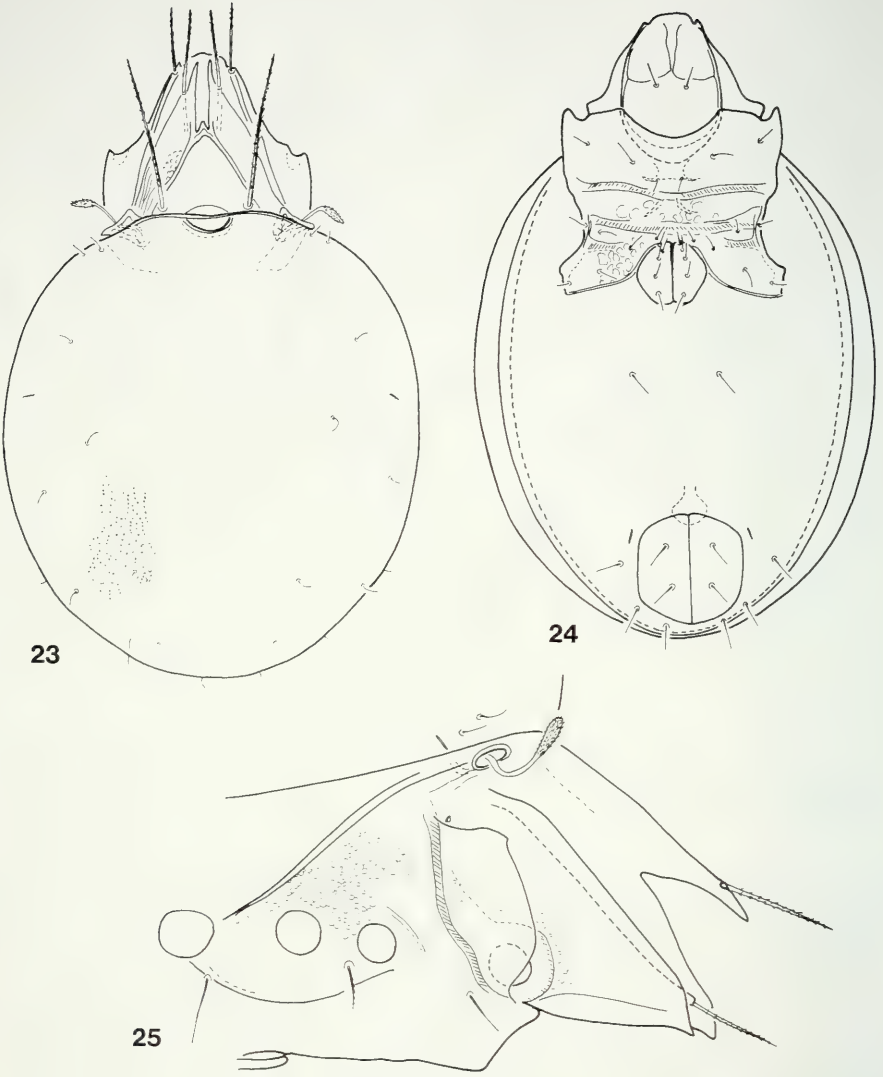
*Berndamerus eremuloides* (Berlese, 1910) - 20: leg IV, 21: tibia and tarsus of leg I, 22: femur and genu of leg I.

since there was no nominal species included in the genus and, by extension of this, no type species was fixed" (P. K. Tubbs, in litteris electronicis of 20.VII.2000)<sup>5</sup>. However, when it became clear that *Daedaloppia* and *Lasiobelba* were identical, we withdrew our manuscript to re-write it but which, for various reasons, was rather delayed.

When, for the second time (1988) the manuscript was handed in for publication we were informed about the paper of Subias & Balogh (1989), wherein the species received a name: *Lasiobelba quadriseta* Subias nom. n. (for *Daedaloppia* sp. Hauser et Mahunka, 1983) without our knowledge and approval. The name given by Subias is not available, "since *L. quadriseta* cannot be a nom. nov. for *Daedaloppia* [sic!] sp. Hauser et Mahunka, 1983 (an unavailable, indeed non-existent, name attributed to a non-existent publication)" (P. K. Tubbs, in litt. electr. of 20. VII. 2000).

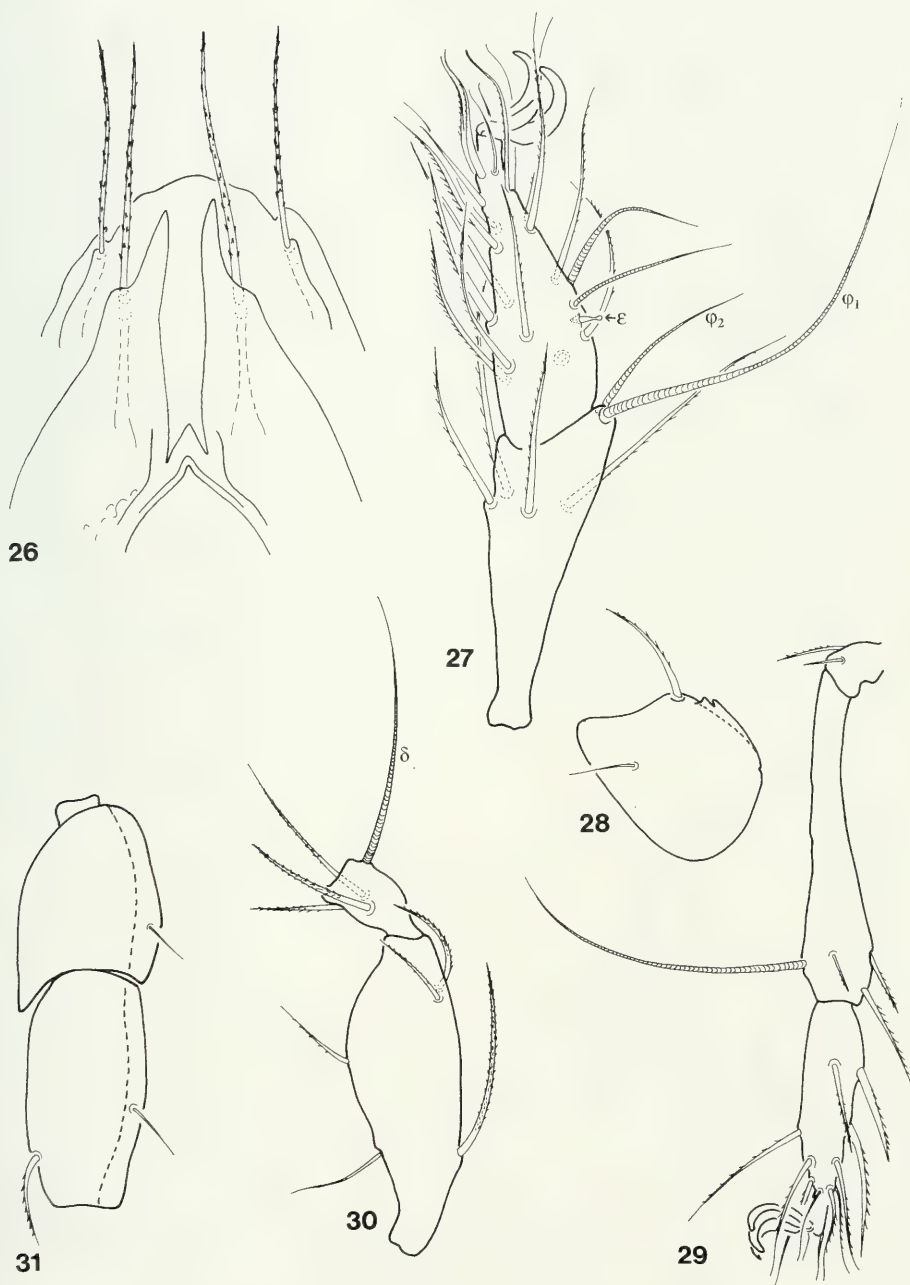
This is why I name this species *L. icaria*, as originally intended. A detailed description of the species follows hereunder.

<sup>5</sup> Dr. B. Hauser has submitted this case to the Executive Secretary of the International Commission on Zoological Nomenclature (London), Dr. P. K. Tubbs, who has kindly furnished the valuable above-mentioned statements.



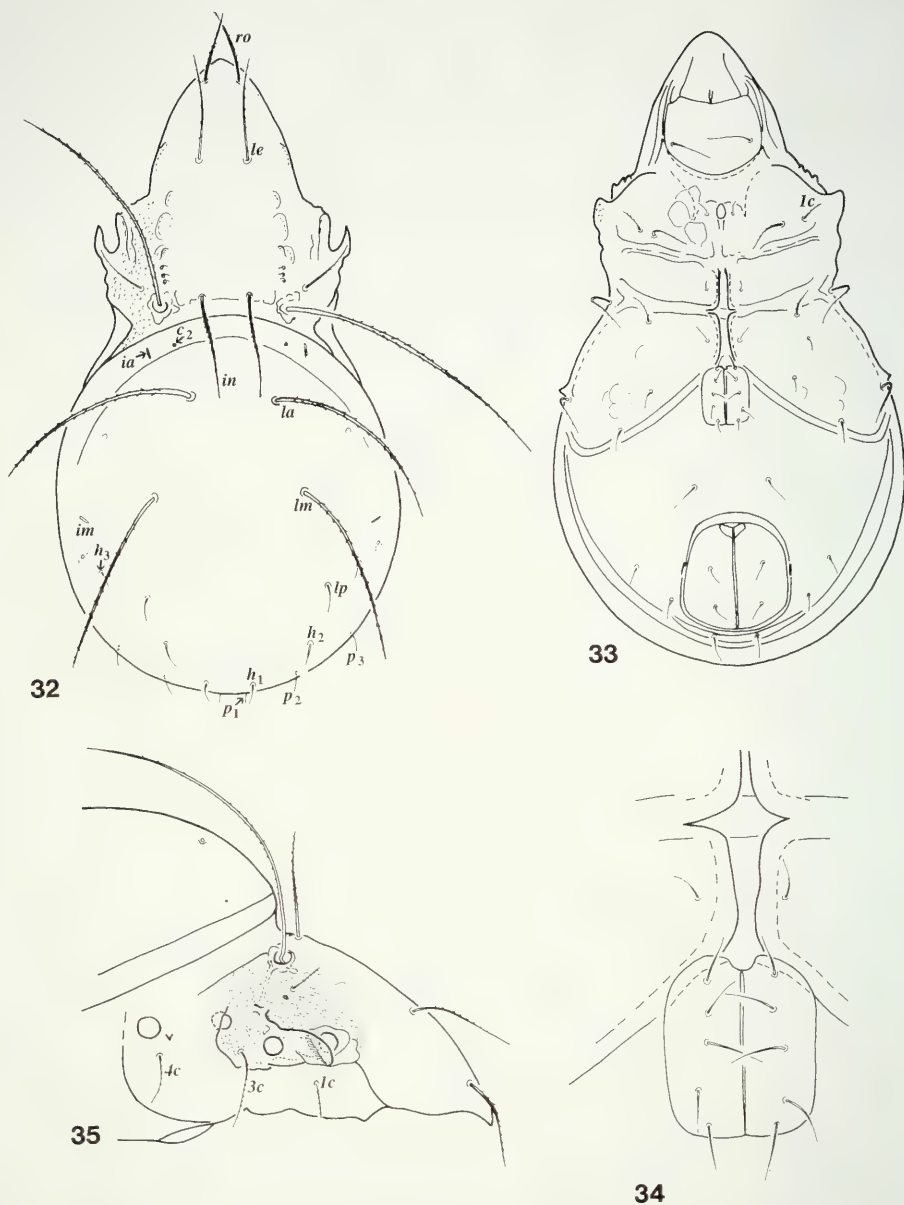
FIGS 23-25

*Dorycranosus splendens* (Coggi, 1898) - 23: body in dorsal view, 24: body in ventral view, 25: podosoma in lateral view.



FIGS 26-31

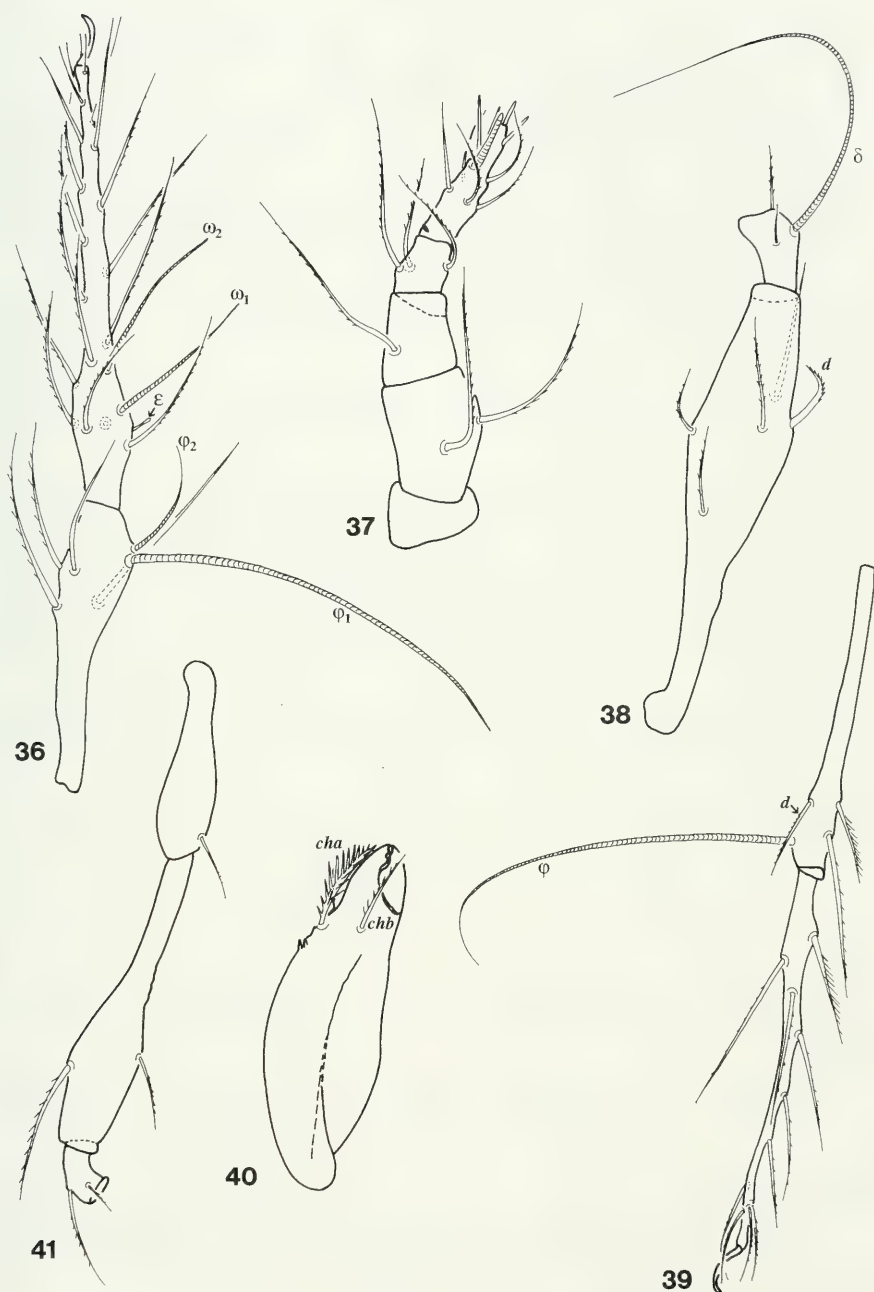
*Dorycranosus splendens* (Coggi, 1898) - 26: rostral part of the prodorsum, 27: tibia and tarsus of leg I, 28: trochanter of leg II, 29: tibia and tarsus of leg IV, 30: femur and genu of leg I, 31: trochanter and femur of leg IV.



FIGS 32-35

*Lasiobelba icaria* sp. n. - 32: body in dorsal view, 33: body in ventral view, 34: genital plates and the posteromedian part of the coxisternal region, 35: podosoma in lateral view.





FIGS 36-41

*Lasiobelba icaria* sp. n. - 36: tibia and tarsus of leg I, 37: palp, 38: femur and genu of leg I, 39: tibia and tarsus of leg IV, 40: chelicera, 41: trochanter, femur and genu of leg IV.

## DESCRIPTION

*Material examined:* Greece: Nikaria: Holotype: Sam-80/4. Holotype: MHNG.

*Measurements:* Length: 456  $\mu\text{m}$ ; width 216  $\mu\text{m}$ .

*Prodorsum:* Rostrum elongate, rostral apex conical. Prodorsal surface with some irregular fields laterally and basally its lateral part distinctly and uniformly granulated. Among the prodorsal setae, the rostral setae slightly thicker than the lamellar and interlamellar ones, their ratio as shown in fig. 35. Sensillus very long (218  $\mu\text{m}$ ), setiform, without thickening medially, sparsely ciliated.

*Notogaster:* Nine pairs of notogastral setae present (setae  $c_2$  represented only by their alveoli). Two pairs of them very long and pilose, all the others short, fine and smooth (Fig. 32).

*Lateral part of podosoma:* Pedotecta I normal, pedotecta II-III absent, discidium with sharply pointed cusps. Sejugal region also granulated (Fig. 35). Setae  $1c$  arising far from pedotecta I.

*Coxisternal region:* Anterior part of the sternal apodema (and borders) reduced, only short tuberculae present. Epimeres 1 fused or touching medially. The longitudinal borders between epimeres 2 and 3-4 conspicuous, these fields not touching medially (Fig. 34). Sejugal apodema and borders also well developed. Epimeral setae simple, mostly well ciliate. Setae  $1b$  conspicuously long, much longer than  $1a$  or  $1c$  (Fig. 33).

*Anogenital region:* Anterior margin of the genital plates concave medially (Fig. 33). Anal aperture much larger than the genital one. Anogenital setal formula: 5-1-2-3: setae  $ad_1$  in post-, setae  $ad_3$  para- and the lyrifissures  $iad$  also in paraanal position.

*Gnathosoma:* Chelicera (Fig. 40) with two strong teeth on its dorsal surface, setae  $cha$  very long having spiniform branches. Palpal setal formula: 0-2-1-3-9+1 (Fig. 37).

*Legs:* All segments of legs very long, narrow, with the typical oppioid setal formula:

$$\begin{array}{l} \text{I: } 1-5-2+1-4+2-20+2-1 \text{ (Figs 36, 38)} \\ \text{IV: } 1-2-2-3+1-10-1 \text{ (Figs 39, 41)} \end{array}$$

*Remarks:* This species is readily relegated to the genus *Lasiobelba* Aoki, 1959. It is distinguished from all other *Lasiobelba* species by the strong heterotrichy of the notogaster.

*Derivatio nominis:* Dedicated to the island of Nikaria where Hercules buried Icarus, son of Daedalus who plunged near this island into the sea.

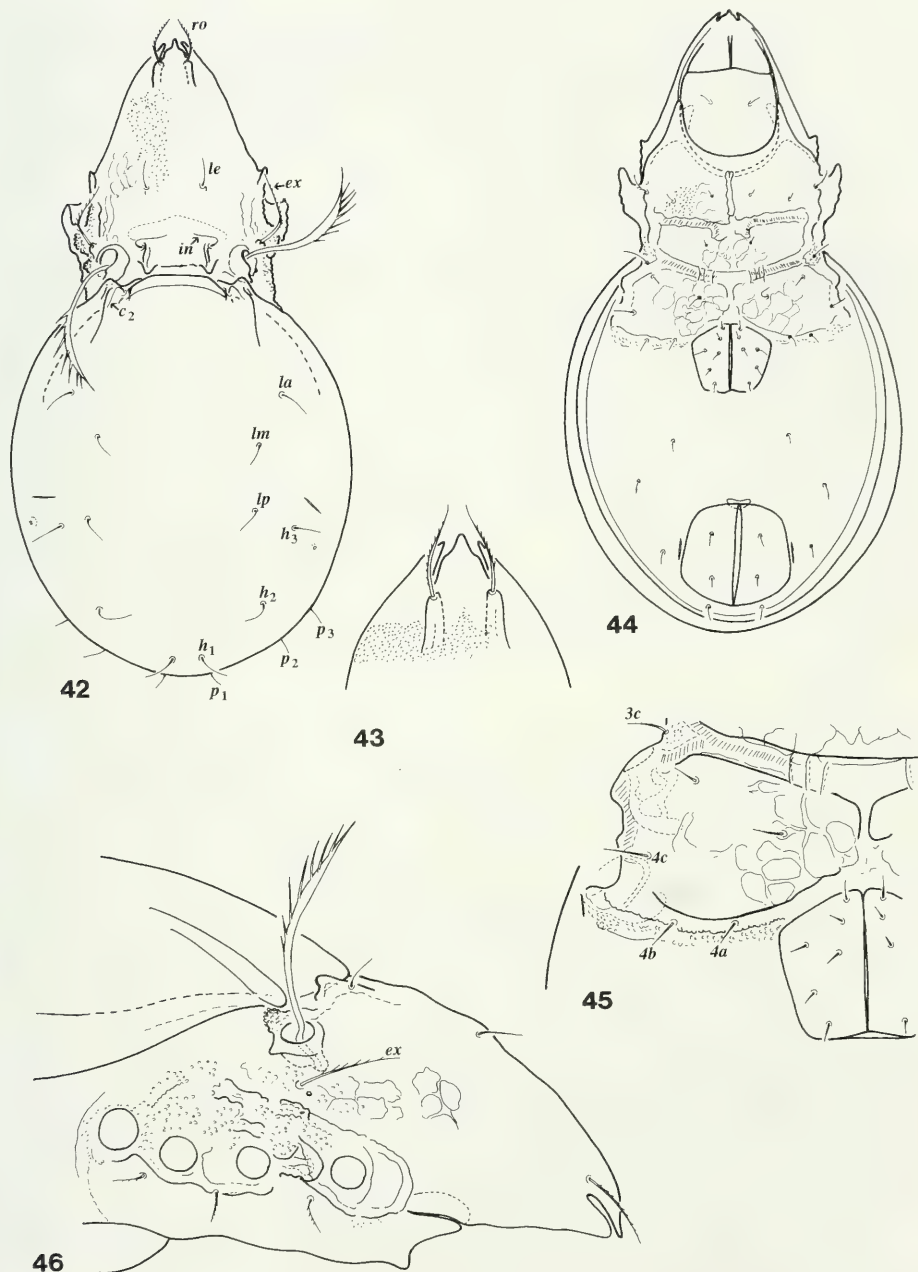
***Medioppia samaina* sp. n.**

Figs 42-49

*Material examined:* Greece: Samos: Holotype: Sam-80/11; 7 paratypes from the same sample. Holotype and 4 paratypes: MHNG and 3 paratypes (1591-PO-97): HHNM.

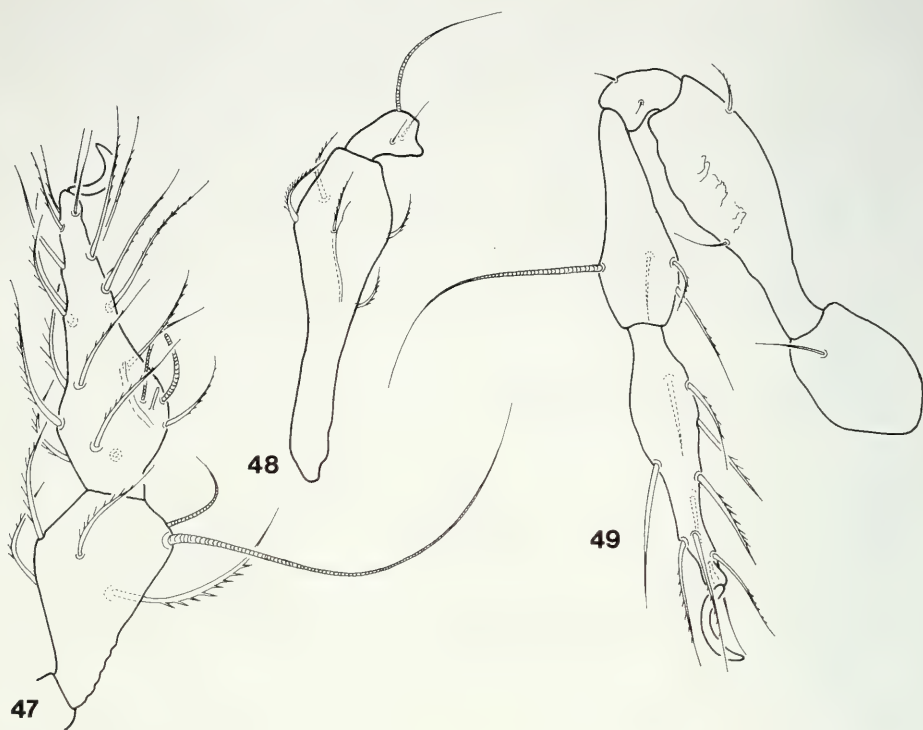
*Measurements:* Length: 265-295  $\mu\text{m}$ ; width: 137-158  $\mu\text{m}$ .

*Prodorsum:* Rostrum divided by incisions. Median rostral apex characteristically narrowing anteriorly (Fig. 43), longer than lateral teeth. Rostral setae originating



FIGS 42-46

*Medioppia samaina* sp. n. - 42: body in dorsal view, 43: rostrum, 44: body in ventral view, 45: epimeres 3-4 and genital plate, 46: podosoma in lateral view.



FIGS 47-49

*Medioppia samaina* sp. n. - 47: tibia and tarsus of leg I, 48: femur and genu of leg I, 49: leg IV.

at the end of the rostral incisions, inserted on short but clearly observable crests. Prodorsal surface distinctly granulated. Basal part of prodorsum with two large tubercles, continued in short longitudinal crests anteriorly, interlamellar setae arising at their distal end. Rostral setae thicker and more pilose than the lamellar and interlamellar ones, but the exobothridial setae the longest, strongest and most pilose of all. Sensillus pectinate, with 6-7 equally long branches. Bothridium with large basal tubercles and a smaller lateral protuberance. The tubercles conspicuously granulate.

*Notogaster*: Dorsosejugal region with one pair of large apophyses. Median part straight anteriorly, lateral crests strong, conspicuous (Fig. 42); setae  $c_2$  arising between them. Ten pairs of short and simple notogastral setae present.

*Lateral part of prodorsum*: Whole part conspicuously sclerotised (Fig. 46), with granulate longitudinal crests. The surface above the acetabula I-IV granulate. Pedotecta I rather squamous. Pedotecta II-III and discidium are very small.

*Coxisternal region*: A complete sternal apodeme absent, sejugal apodeme and epimeral borders conspicuous, having 3-4 transversal crests on them. Along the posterior border of this region the surface is also granulate with a small fossa obser-

vable laterally, its inner surface also granulate (Fig. 45). Epimeral setae short, setae *Ic* pilose, originating far from pedotecta I.

*Anogenital region:* Anogenital setal formula: 6-1-2-4. All setae short and simple (Fig. 44), setae *ad*<sub>3</sub> in preanal, with lyrifissures *iad* in paraanal position.

*Legs:* Leg setal formula is typical for the family :

I: 1-5-2+1-4+2-20+2-1 (Figs 47-48)

IV: 1-2-2-3+1-10-1 (Fig. 49)

*Remarks:* The new species is readily classified into the genus *Medioppia* Subías & Minguez, 1985; it belongs to the *tridentata*-species group characterised by the well divided rostrum. The new species seems to be closely related to the type species of the genus and to *Medioppia centrodentata* Gordeeva & Niemi, 1990. However, it is well distinguished from both by the short and subequal branches of the sensillus (different in length in the other species), the position of *c*<sub>2</sub> setae arising behind the notogastral crests in *M. tridentata* and in *M. centrodentata*, the presence of the granulated area along the posterior epimeral border (absent in the other two species). The longitudinal crests on the sejugal epimeral borders were not mentioned either by Subías & Minguez (1985) or Gordeeva & Niemi (1990).

*Derivatio nominis:* The species is named after the famous Greek warship, which was built in ancient times on the island of Samos. The ship's prow was in form of a wild boar's head.

***Haplozetes vindobonensis*** Willmann, 1935

Figs 50-56

This is the first record for Greece and it seems of interest to give some figures based on Greek specimens.

***Ceratozetes peritus*** Grandjean, 1951

Figs 60-63, Pl. c-f

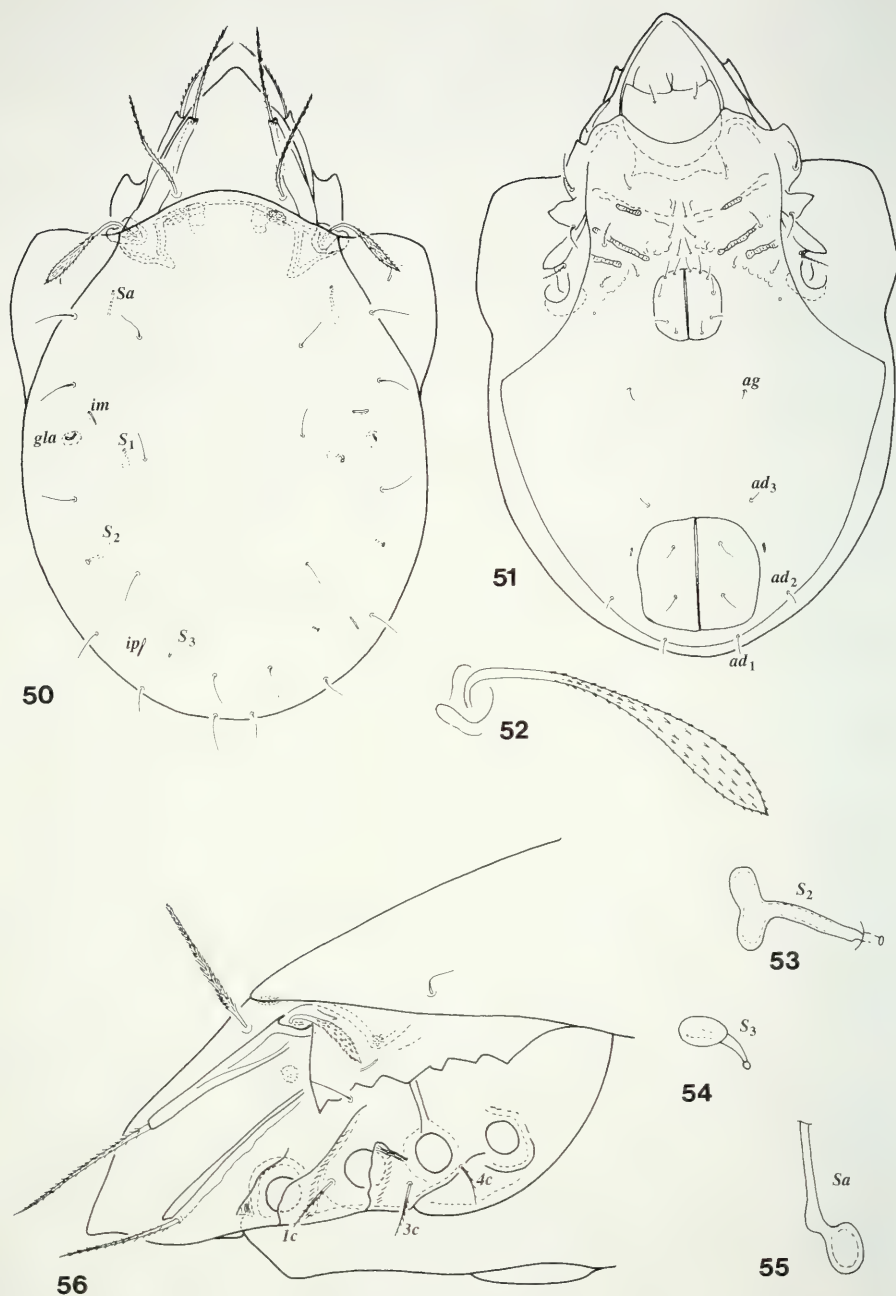
This species is recorded for the first time for Greece, for this reason some illustrations of the Greek material are given.

## ACKNOWLEDGEMENTS

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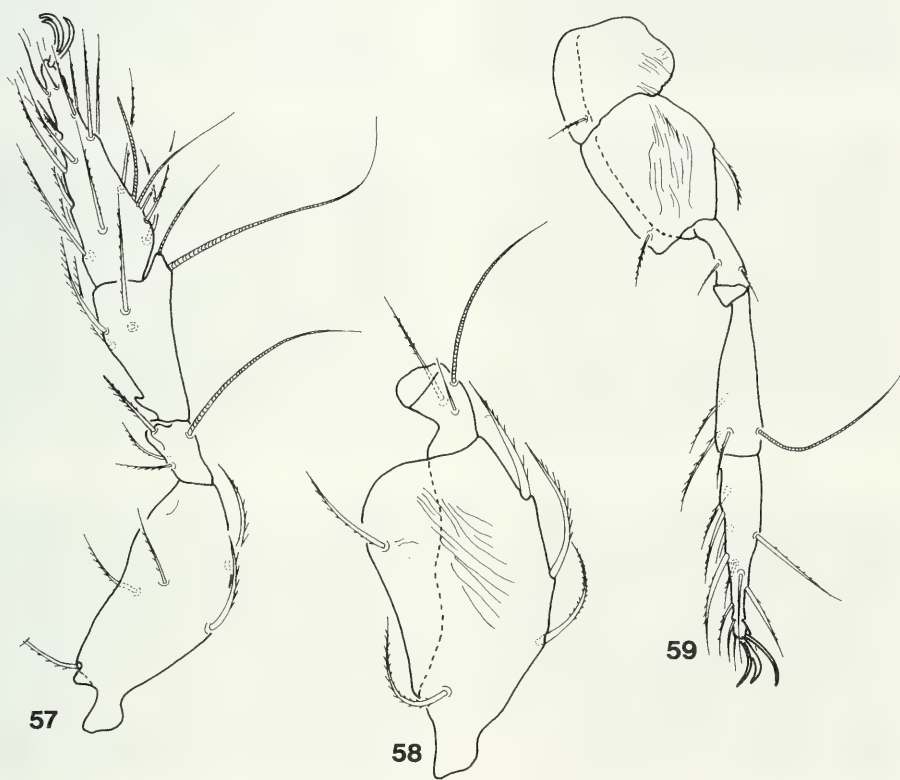
This work was partly sponsored by the Hungarian Scientific Research Fund (OTKA: 16729).





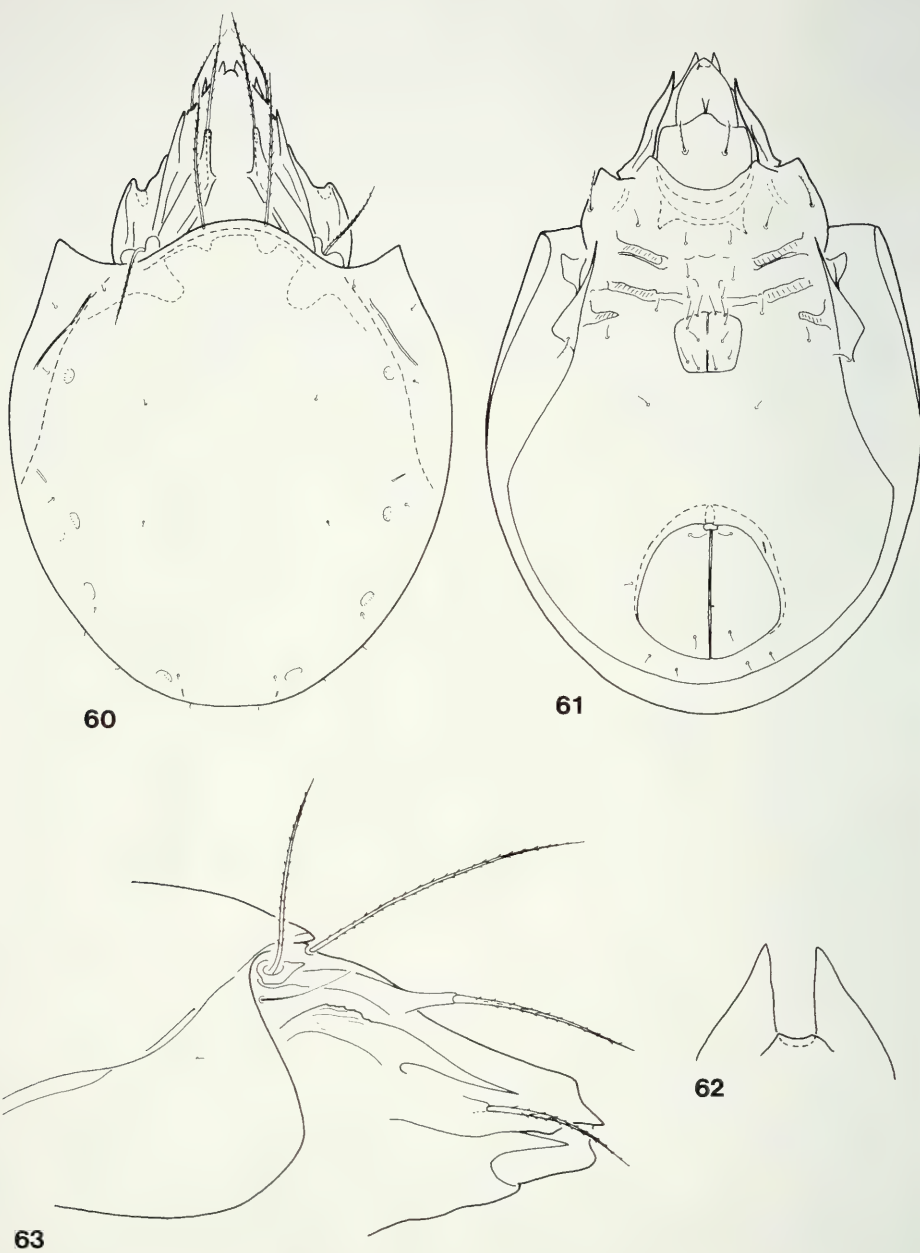
FIGS 50-56

*Haplozetes vindobonensis* (Willmann, 1935) - 50: body in dorsal view, 51: body in ventral view, 52: sensillus, 53: sacculus *S<sub>2</sub>*, 54: sacculus *S<sub>3</sub>*, 55: sacculus *Sa*, 56: podosoma in lateral view.



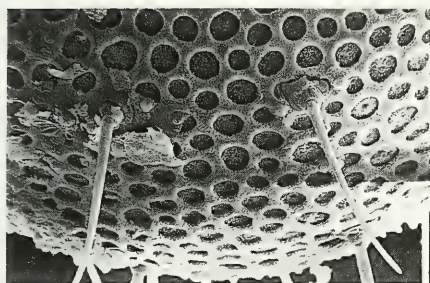
FIGS 57-59

*Haplozetes vindobonensis* (Willmann, 1935) - 57: leg I, 58: femur and genu of leg II, 59: leg IV.

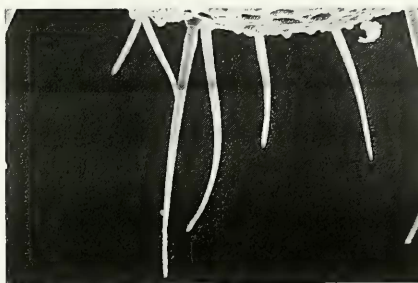


FIGS 60-63

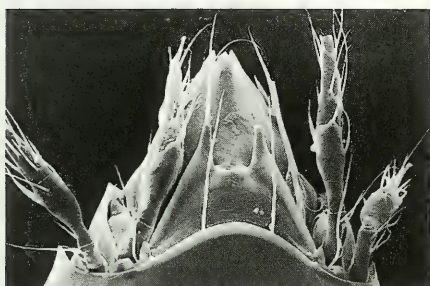
*Ceratozetes peritus* Grandjean, 1951 - 60: body in dorsal view, 61: body in ventral view, 62: rostrum, 63: podosoma in lateral view.



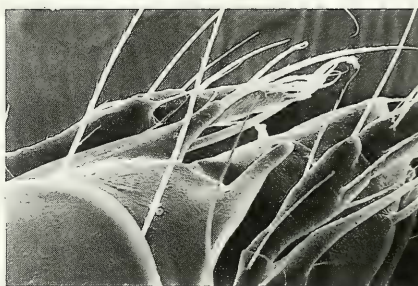
a



b



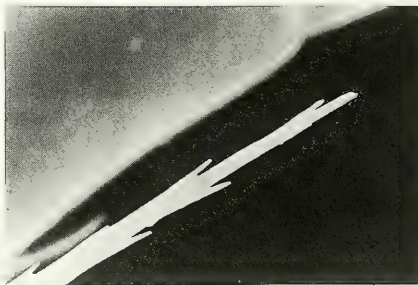
c



d



e



f

## PHOTO PLATE a-f

*Issaniella mograbin hauseri* ssp. n. - a: sculpture of the notogaster, b: setae of the posterior margin.

*Ceratozetes peritus* Grandjean, 1951 - c: prodorsum in dorsal view, d: prodorsum in lateral view, e: bothridial region, f: end of sensillus.

(Photographs taken by Dr. Jean Wüest on the Super Mini SEM by ISI of the Muséum d'histoire naturelle, Geneva)

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